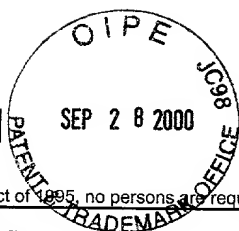


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SEP 28 2000



PTO/SB/50 (12/97)  
Approved for use through 09/30/00. OMB 0651-0033  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE  
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# REISSUE PATENT APPLICATION TRANSMITTAL

Address to:

Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

Attorney Docket No.	8740-049
First Named Inventor	DALY, D.
Original Patent Number	5,819,005
Original Patent Issue Date (Month/Day/Year)	October 6, 1998
Express Mail Label No.	EL 501 634 771 US
Total Pages	

## APPLICATION FOR REISSUE OF:

(check applicable box)

☒ Utility Patent

☐ Design Patent

☐ Plant Patent

### APPLICATION ELEMENTS

1. ☒ Fee Transmittal Form (PTO/SB/56)  
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification and Claims (amended, if appropriate)
3. ☒ Drawing(s) (proposed amendment, if appropriate)
4. ☒ Reissue Oath/Declaration (original or copy)  
(37 CFR 1.175)(PTO/SB/51 or 52)
5. Original U.S. Patent  
☒ Offer to Surrender Original Patent (37 CFR 1.178)  
(PTO/SB/53 or PTO/SB/54)  
or  
☐ Ribboned Original Patent Grant  
☐ Affidavit/Declaration of Loss (PTO/SB/55)
6. Original U.S. Patent currently assigned?  
☒ Yes ☐ No  
(If Yes, check applicable box(es))  
☒ Written Consent of all Assignees (PTO/SB/53 or 54)  
☒ 37 CFR 3.73(b) Statement ☒ Power of Attorney

### ACCOMPANYING APPLICATION PARTS

7. ☒ Transfer drawings from Patent File
8. ☐ Foreign Priority Claim (35 USC 119)  
(if applicable)
9. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☒ Copies of IDS Citations
10. ☐ English Translation of Reissue Oath/Declaration  
(if applicable)
11. ☐ Small Entity Statement(s) ☐ Statement filed in prior application,  
Status still proper and desired
12. ☒ Preliminary Amendment
13. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
14. ☐ Other:

## 15. NEW CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label

20583

(Insert Customer No. or Attach bar code label here)

or ☐ New correspondence address below

NAME

ADDRESS

CITY

STATE

ZIP CODE

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PTO/SB/56 (08-00)  
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REISSUE APPLICATION FEE TRANSMITTAL FORM						Docket Number (Optional) 8740-049-999		
Claims as Filed - Part 1								
Claims in Patent		Number Filed in Reissue Application	(3) Number Extra	Small Entity		Other than a Small Entity		
				Rate	Fee			
(A) 26	Total Claims (37 CFR 1.16(j))	(B) 55	**** 29 =	x \$ _____ =		or	x \$ 22 = 638.00	
(C) 4	Independent claims (37 CFR 1.16(i))	(D) 6	* 2 =	x \$ _____ =			x \$ 78 = 156.00	
Basic Fee (37 CFR 1.16(h))					\$ _____		\$ 690.00	
Total Filing Fee					\$ _____	OR	\$ 1484.00	
Claims as Amended - Part 2								
	(1) Claims Remaining After Amendment		(2) Highest Number Previously Paid For	(3) Extra Claims Present	Small Entity		Other than a Small Entity	
					Rate	Fee	Rate	Fee
Total Claims (37 CFR 1.16(j))	***	MINUS	**	* =	x \$ _____ =		x \$ _____ =	
Independent Claims (37 CFR 1.16(i))	***	MINUS	*****	=	x \$ _____ =		x \$ _____ =	
Total Additional Fee					\$ _____	OR	\$ _____	
<p>* If the entry in (D) is less than the entry in (C), Write "0" in column 3.</p> <p>** If the "Highest Number of Total Claims Previously Paid For" is less than 20, Write "20" in this space.</p> <p>*** After any cancellation of claims.</p> <p>**** If "A" is greater than 20, use (B - A); if "A" is 20 or less, use (B - 20).</p> <p>***** "Highest Number of Independent Claims Previously Paid For" or Number of Independent Claims in Patent (C).</p>								
<p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input checked="" type="checkbox"/> Please charge Deposit Account No. <u>16-1150</u> in the amount of <u>\$1,484.00</u> A duplicate copy of this sheet is enclosed.</p> <p><input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees under 37 CFR 1.16 or 1.17 which may be required, or credit any overpayment to Deposit Account No. <u>16-1150</u> A duplicate copy of this sheet is enclosed.</p> <p><input type="checkbox"/> A check in the amount of \$ _____ to cover the filing / additional fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p>								
<p><b>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</b></p>								
September 28, 2000 Date				 Signature of Applicant, Attorney or Agent of Record				
				Edmond R. Bannon Reg. No. 32,110 Typed or printed name				



09-29-00

Re/issue

Express Mail No.: EL 501 634 771 US

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF THE PATENT  
APPLICATION FOR REISSUE OF

Application of: DALY et al.

U.S. Patent No.: 5,819,005

Issued: October 6, 1998

For: MODULAR DIGITAL  
RECORDING LOGGER

Attorney Docket No.: 8740-049

Assignee: Dictaphone Corporation

TRANSMITTAL LETTERHonorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

The following items are submitted herewith for the above-identified reissue  
application:

1. Reissue Application Fee Transmittal Form (PTO/SB/56) in duplicate;
2. Reissue Patent Application Transmittal, PTO/SB/50;
3. A copy of U.S. Patent 5,819,005 and a cut-up copy of the patent mounted in single column format;
4. Assent of Assignee to Reissue with copies of the document establishing the chain of title;
5. Petition For Reissue Patent and Offer to Surrender Original Patent - three documents signed by each of the six inventors;
6. Reissue Declarations Under 37 C.F.R. 1.175 and Power of Attorneys - three documents signed by each of the six inventors;
7. Information Disclosure Statement w/ Form 1449 List of References Cited by Applicant and photocopies of cited References;

[illegible]

All future communications regarding this matter should be directed to the undersigned attorney of record.

Edmond R. Bunker

Edmond R. Bannon

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New York, NY 10036

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Express Mail No.: EL 501 634 771 US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN THE MATTER OF THE PATENT  
APPLICATION FOR REISSUE OF

Application of: DALY et al.

U.S. Patent No.: 5,819,005

Issued: October 6, 1998

For: MODULAR DIGITAL  
RECORDING LOGGER

Attorney Docket No.: 8740-049

Assignee: Dictaphone Corporation

**PRELIMINARY AMENDMENT**

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Please enter the following amendments into the file of the above-identified application prior to examination thereof.

**In the Claims:**

Please amend the claims of the application as follows:

1. (amended) A modular digital recording logger[,] comprising:  
a housing;  
at least two audio circuits [circuit modules] in said housing for converting analog voice signals to digital voice signals, each of said audio circuits [circuit modules] including at least two terminals for receiving said analog voice signals, each of said terminals being capable of receiving said analog voice signals for recording [recording a two-way conversation];  
a circuit in said housing for compressing said digital voice signals received from each of said audio circuits [circuit modules] to provide compressed voice data;

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a first bus in said housing for providing communication between said audio circuits [circuit module] and said compressing circuit, said first bus enabling the addition or removal of circuits;

a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said audio circuits [circuit modules] on said first bus; [and]

a host computer for controlling the logger; and

a digital audio tape (DAT) drive for storing said compressed voice data.

3. (amended) The modular digital recording logger of claim 1[, ] further [including] comprising a speaker in communication with at least one of the audio circuits [circuit module].

4. (amended) The modular digital recording logger of claim 1[, ] further comprising a hard disk drive in said housing for storing [and reproducing] said compressed voice data.

5. (amended) The modular digital recording logger of claim 4[, ] further comprising[: a computer in said housing for operating said DAT drive and/or said hard disk drive to store and reproduce said digital voice signals; and] a second bus in said housing for connecting said computer to said hard disk drive and said DAT drive.

7. (amended) The modular digital recording logger of claim 5, [1], wherein said second bus is a small computer system interface (SCSI) bus and the logger further [comprising] comprises a SCSI adapter for connecting said computer to said SCSI bus.

11. (amended) A network [system] of modular digital recording loggers[, ] comprising:

at least two digital recording loggers for logging voice signals [conversations], each of said recording loggers comprising:

a housing[;].

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a first circuit in said housing for converting analog voice signals to [and from] digital voice signals, said circuit [modules] including at least two terminals for receiving said analog voice signals, and wherein each of said terminals is capable of receiving said analog voice signals for recording [recording a two-way conversation],

a second circuit in said housing for compressing said digital voice signals received from the first circuit [each of said circuit modules] to provide compressed voice data, [a first bus in said housing for providing communication between said circuit module and said compressing circuit,]

[a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus,]

a digital audio tape (DAT) drive for storing said compressed voice data,

a hard disk drive in said housing for storing [and reproducing] said compressed voice data,

a first computer in said housing for operating said DAT drive and/or said hard disk drive to store [and reproduce said digital voice signals] compressed voice data

received from said second circuit and retrieve stored compressed voice data, and

[a second bus in said housing for connecting said computer to said hard disk drive and said DAT drive;]

a second computer for processing compressed [digital] voice [signals received] data retrieved from [each of] said recording loggers; and

a [third] bus connecting each of said recording loggers to said second computer.

12. (amended) The network [system] of claim 11[,] further comprising a clock in communication with said first computer.

13. (amended) The network [system] of claim 11, wherein said [third] bus is a local area network (LAN) bus.

14. (amended) The network [system] of claim 13, wherein said second computer and each of said recording loggers further include a LAN adapter for providing connection to said LAN bus.

15. (amended) The network [system] of claim 11[, wherein said first bus is] further comprising a time division multiplexed (TDM) bus that provides for communication between the first and second circuits in each digital recording logger[ and said multiplexer circuit is a time division multiplexer circuit].

16. (amended) The network [system] of claim 11[, wherein said second bus is] further comprising a small computer system interface (SCSI) bus for connecting said first computer to said hard drive and said DAT drive and [further comprising] a SCSI adapter for connecting said first computer to said SCSI bus in each digital recording logger.

17. (amended) The network [system] of claim 16[, further comprising a random access memory (RAM) for storing said compressed voice data before [it is transmitted] transmission to the SCSI [adapter] bus in each digital recording logger.

18. (amended) The network [system] of claim 11, wherein said second [compressing] circuit in each digital recording logger is a processor.

19. (amended) The network [system] of claim 18[, further comprising an ISA bus for providing communication between said first computer and said processor in each digital recording logger.

20. (amended) The network [system] of claim 11, wherein said second computer is a workstation.

21. (amended) The network [system] of claim 11[, further comprising a speaker in communication with said second computer for reproducing [said] analog voice signals from the compressed voice data.



22. (amended) A method of manufacturing a modular digital recording logger, comprising the steps of:

selecting a number of circuits [circuit modules] for converting analog voice signals to [and from] digital voice signals, each of said circuits [circuit modules] including at least two terminals for receiving [said] analog voice signals, and wherein each of said terminals is capable of receiving said analog voice signals for recording [recording a two-way conversation];

installing said selected number of said circuits [circuit modules] in a housing;

installing a compressing circuit in said housing for compressing said digital voice signals received from each of said circuits [circuit modules] to provide compressed voice data;

installing a first bus in said housing for providing communication between said circuits [circuit module] and said compressing circuit;

installing a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals [exchanged] between said compressing circuit and said circuits [circuit modules on said first bus]; and

installing a digital audio tape (DAT) drive in said housing for storing [and reproducing] said compressed voice data.

23. (amended) The method of claim 22[,] further comprising the steps of installing [connecting to said comprising circuit] a hard disk drive in said housing for storing [and reproducing] said compressed voice data.

24. (amended) A method of networking a plurality of digital recording loggers[,] comprising the step of:

selecting a number of modular digital recording loggers for logging voice signals [conversations], each of said recording loggers comprising:

a housing[;],

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a converting circuit [in said housing] for converting analog voice signals to and from digital voice signals, said circuit including a plurality of terminals for receiving said analog voice signals, and wherein each of said terminals is capable of receiving said analog voice signals for recording [recording a two-way conversation],  
a compressing circuit [in said housing] for compressing said digital voice signals received from the [each of said] converting circuit [modules] to provide compressed voice data,  
[a first bus in said housing for providing communication between said circuit module and said compressing circuit,]  
[a multiplexer circuit in said housing for providing communication between said processor and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus,]  
a digital audio tape (DAT) drive for storing [and reproducing] said compressed voice data,  
a hard disk drive for storing [and reproducing] said compressed voice data,  
a first computer [in said housing] for operating said DAT drive and/or said hard disk drive to store and [reproduce] retrieve said [digital voice signals,] compressed voice data, and  
a [second] bus [in said housing for] connecting said computer to said hard disk drive and said DAT drive;

installing said selected number of said recording loggers; and  
[installing a second computer for processing compressed digital voice signals received from each of said recording loggers; and]  
[installing a third bus connecting each of said recording loggers to said second computer]  
connecting the installed loggers via a local area network (LAN) bus.

Cancel claims 25 and 26.

Please add the following new claims:

27. The modular digital logger of claim 4 further comprising a host adapter for activating the hard disk drive to retrieve select voice signals stored thereon.

28. The modular digital logger of claim 4 further comprising means for activating the hard disk drive to retrieve select voice signals stored thereon while signals are being stored using said DAT drive.

29. The modular digital logger of claim 3, wherein at least one audio circuit is capable of converting digital audio signals to analog audio signals for playback using said speaker.

30. The modular digital logger of claim 1, wherein said terminals are being capable of receiving analog voice signals corresponding to a two-way conversation.

31. The network of modular digital recording loggers of claim 11, wherein at least one logger has an audio circuit that is capable of converting digital audio signals to analog audio signals for playback.

32. The network of modular digital recording loggers of claim 11, wherein at least one digital recording logger is capable of recording voice data while retrieving select previously stored voice data.

33. The network of modular digital recording loggers of claim 11, wherein said voice signals correspond to a two-way conversation.

34. The method of networking of claim 24 further comprising the step of connecting a workstation capable of retrieving compressed voice data stored in an installed recording logger.

35. The method of networking of claim 34 further comprising the step of playing back voice data retrieved from an installed recording logger.

36. The method of networking of claim 34, wherein the step of connecting is performed using a LAN bus.

37. A modular digital recording logger, comprising:

a base;

one or more circuits on said base for monitoring a plurality of audio sources and receiving signals therefrom, at least one monitoring circuit being capable of converting analog audio signals to digital audio signals;

at least one application circuit on said base for compressing digital audio signals received from said one or more monitoring circuits to provide compressed audio data;

a first bus on said base for providing time-shared communication of digital audio signals from the plurality of audio sources between said one or more monitoring circuits and said at least one application circuit, said time shared communication on the first bus enabling increase or decrease in the number of circuits;

a host computer for controlling the operation of the logger; and

digital storage means for storing said compressed audio data.

38. The modular digital recording logger of claim 37 further comprising a multiplexer circuit that multiplexes audio signals exchanged between said at least one application circuit and said one or more monitoring circuits on said first bus.

39. The modular digital recording logger of claim 38, wherein said multiplexer circuit is a time division multiplexing (TDM) circuit.

40. The modular digital recording logger of claim 37, wherein at least one monitoring circuit is capable of converting digital audio signals to analog audio signals and the logger further comprises a speaker for playback of said analog audio signals.

41. The modular digital recording logger of claim 37, wherein said digital storage means is a random access storage device.

42. The modular digital recording logger of claim 41, wherein said random access storage device is a hard disk.

43. The modular digital logger of claim 42 further comprising a host adapter for activating the hard disk to retrieve select audio signals stored thereon.

44. The modular digital recording logger of claim 37 further comprising a small computer system interface (SCSI) bus for connecting said computer to the digital storage means and a SCSI adapter for connecting said computer to said SCSI bus.

45. The modular digital recording logger of claim 37, wherein at least one application circuit is a processor.

46. The modular digital recording logger of claim 45 further comprising an ISA bus for providing communication between the computer and said processor.

47. The modular digital recording logger of claim 37 further comprising a random access memory (RAM) for storing said compressed voice data before it is transmitted to the digital storage means.

48. The modular digital recording logger of claim 37, wherein said storage means comprises a digital audio tape (DAT) drive.

49. The modular digital recording logger of claim 38 further comprising a random access memory (RAM) for storing said compressed voice data before it is transmitted to the digital storage means.

50. A network of modular digital recording loggers comprising:  
at least two digital recording loggers for logging audio signals, each of said recording loggers comprising:

a base;

one or more circuits on said base for monitoring a plurality of audio sources and receiving signals therefrom, at least one monitoring circuit being capable of converting analog audio signals to digital audio signals;

at least one application circuit on said base for compressing digital audio signals received from said one or more monitoring circuits to provide compressed audio data;

a first computer on said base for controlling the operation of the logger;

storage means for storing said compressed voice data;

a workstation capable of processing audio data; and

a bus connecting each of said recording loggers to said workstation.

51. The network of claim 50, wherein said bus is a local area network (LAN) bus.

52. The network of claim 51, wherein said workstation and each of said recording loggers further comprises a LAN adapter for providing connection to said LAN bus.

53. The network of claim 50, wherein said storage means comprises a random access storage device.

54. The network of claim 53, wherein said random access storage device is a hard disk drive.

55. The network of claim 50, wherein said storage means comprises a digital audio tape (DAT) drive.

56. The network of claim 54 further comprising a host adapter for activating the hard disk drive to retrieve select audio signals stored thereon.

57. The network of claim 55, wherein audio signals selected for retrieval on a first digital logger are communicated over said bus and played back on a second digital logger.

### **REMARKS**

Original claims 1-24, as amended, and new claims 27-57 are pending in this application. Original claims 25 and 26 have been canceled.

Claim 1 has been amended to replace the expression "analog voice signals for recording a two-way conversation" with --analog voice signals for recordation-- to indicate that there is no need for the recorded signals to correspond to a "conversation". Similar amendments have been made in independent claims 11, 22 and 24. Support for these amendments is found, for example, at col. 1, l. 7-11; 40-44; col. 2, l. 46-54 of U.S. Patent No. 5,819,005 (the "'005 patent"). Claim 1 has also been amended to replace the term "circuit modules" with --audio circuits--, which finds support, for example, at col. 2, l. 7-11 of the patent. Claim 1 has further been amended to recite --said first bus enabling the addition or removal of circuits--, to more specifically point out and distinctly claim the modular nature of the claimed digital recording logger. Support for this amendment is found, for example, at col. 4, l. 12-44 of the patent. In addition, claim 1 has been amended to recite --a host computer for controlling the logger--, which expression finds support, for example, at col. 1, l. 32-38 and Fig. 1 of the patent. Finally, claim 1 has been amended to correct minor typographical errors and clarify the claim language.

Dependent claim 3 has been amended to conform with the language of amended claim 1, to correct a minor typographical error and to replace the term "including" with the term --comprising--. Claims 4 and 5 have been amended to correct minor

typographical errors and further to delete the limitation of a hard disk drive for “reproducing” compressed voice data, since a hard drive does not actually reproduce data, but instead permits data to be read. Claim 5 has also been amended to delete the limitation of “a computer in said housing...” which is now incorporated into independent claim 1. Dependent claim 7 has been amended to correct minor typographical errors and to clarify the claim language.

Independent claim 11 has been amended as noted above, and further to provide proper antecedent basis for the term “circuit module(s).” Further, to more clearly indicate that the claim is directed to the networking aspect of the present invention, the claim has been amended to delete the limitations reciting: “a first bus ...”, “a multiplexer circuit...” and “a second bus...”, which limitations are not required. Independent claim 24 has been amended similarly to delete the corresponding limitations. Claim 11 has also been amended to replace “network system” with --network--, which term adequately reflects the nature of the claimed apparatus. Claims 12-21, which depend from claim 11, have been amended accordingly to delete the term “system”. Additional amendments correct minor typographical errors in claim 11. Claims 16-19 and 21 have been amended in a manner consistent with the amendments of base claim 11.

Independent claim 22 has been amended as noted above and further to replace the term “circuit modules” with --circuits--. Finally, independent claim 24 has been amended as noted above, and further to delete the limitations of “installing a second computer...” and “installing a third bus...” and to add the limitation of --connecting the installed loggers via local area network (LAN) bus--, in order to more clearly point out the subject matter which applicants regard as their invention.

Added claims 27-36 depend from the amended original claims 1-24 and are directed to more specific aspects of the invention. The language of new claims 27 and 28 is supported, for example, in the specification of the '005 patent at col. 3, l. 65 to col. 4, l. 5. New dependent claims 29, 31 and 35 are directed to the use of the logger(s) for playback and find support, for example, in the language of the original claims. Claims 30 and 33 specify that the recorded voice signals correspond to two-way conversation, which limitation is



supported in the language of the original claims. Claim 32 is directed to recording voice data while retrieving previously stored voice data and is supported, for example, in the abstract of the patent and the specification at col. 3, l. 60 to col. 4, l. 5. Claims 34 and 36 are directed to a network of loggers having one or more workstations capable of retrieving compressed voice data, and find support, for example, at col. 4, l. 53-67.

Added independent claims 37 and 50 define alternative embodiments in accordance with the present invention and find support in the language of the original claims, as well as the disclosure of the '005 patent, for example, at col. 1, l. 31-62; col. 4, l. 12-44; col. 4, l. 53-67 and Figs. 1-3. Claims 38-48 and 51-57 depend from claim 37 and 50 respectively, and cover additional aspects of the claimed invention, which find support in the language of the original claims, as well as Figs. 1-3 and their description in the '005 patent. No new matter has been added by these new claims, so that their entry at this time is warranted.

Respectfully submitted,

Date September 28, 2000



Edmond R. Bannon

Reg. No. 32,110

**PENNIE & EDMONDS LLP**  
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## MODULAR DIGITAL RECORDING LOGGER

This is a continuation of U.S. patent application Ser. No. 08/100,944, filed Aug. 3, 1993 now abandoned.

## BACKGROUND OF THE INVENTION

In the field of voice processing, there are circumstances in which it is necessary that audio, such as conversations, be recorded and the time when such recordings took place be established. Systems capable of providing this requirement have been commercially available for a long period and are referred to as recording loggers, or loggers for short. Prior systems have worked rather well, but were based for a long time on analog technology. Because of this, the prior logger systems were physically large and the tapes that recorded audio for archival purposes were also large, thus requiring a large amount of storage space.

To overcome these drawbacks of prior analog loggers, digital loggers have recently been developed and offered commercially. Although such digital loggers have advantages over the prior analog loggers, they still have shortcomings in terms of networking expandability and voice capacity. It is an object of the invention to provide a digital logger that overcomes these disadvantages. In addition, it is an object of the invention to provide a digital logger that is modular in construction so that the capacity of such logger can be increased conveniently and economically and software can be upgraded as required.

## SUMMARY OF THE INVENTION

The modular digital recording logger of the invention provides advantages not only over prior analog loggers, but over prior digital recording loggers as well. The digital logger of this invention has a basic unit that comprises four primary components, an audio card that monitors audio sources (such as telephones), a main card that processes audio, a host computer that controls the overall operation and memory.

The audio card serves the main functions of communicating with the audio sources, converting received analog signals to digital signals and directing the audio signals through a time division multiplexed (TDM) bus to the main, or application card.

The application card communicates with the audio card through the TDM bus to monitor the status of the audio cards, when there is more than one, and determine which needs service. The application card packages received data, executes speech compression and expansion, performs VOX and performs other functions. The application card is attached to an ISA bus as are a computer, such as a personal computer, a LAN adapter and a SCSI adaptor. The computer stores the operating instructions and supervises and coordinates the activities of the other components of the logger system. The SCSI adaptor is in communication with at least one digital audio tape (DAT) drive and at least one hard disc drive. The system is modular so that the capacity of the system can be expanded as required readily at a minimum cost and software can be modified conveniently as desired. In addition, the LAN adapter allows each logger of the invention to be part of a networked system that include other digital loggers and workstations.

## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 shows a functional block diagram of a modular digital recording logger constructed in accordance with the present invention;

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FIG. 3 is a block diagram showing a plurality of the loggers of FIG. 1 connected in a network.

## 5

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12.

The audio cards 12 can be of the type shown and described in co-pending patent application Ser. No. 07/815,205 and entitled Audio Circuit Board for a Modular Digital Voice Processing system, filed Dec. 31, 1991, now Ser. No. 102,678, filed Aug. 5, 1993, the disclosure of which is hereby incorporated by reference. The system 10 can be activated in one of two ways, either through the audio card detecting a telephone 40 going off hook, or through a VOX operation controlled by the main card 14 which is activated upon the main card receiving an audio signal from one of the audio cards.

The audio card 12 converts the analog signals received from the communication lines 39 from analog to digital and will transmit the signals onto the TDM bus 16 under control of the main card 14. The main card 14 monitors the status of the audio cards 12a, 12b to see which audio card needs service and upon responding thereto, the audio is sent over the TDM bus 16. The main card 14 can be of the type shown and described in copending application Ser. No. 07/816,404, filed Dec. 31, 1991, now U.S. Pat. No. 5,404,455, and entitled Time Division Multiplexer Chip, the disclosure of which is hereby incorporated by reference. As stated previously, only two audio cards 12 are shown in FIG. 1, but more audio cards can be added to the system as required.

The main card 14 receives the digital audio signals from the audio cards 12 and compresses the data, as for example from 64K bits per second to 13K bits per second of audio and packages the audio into 2048 byte messages. This data is then sent across the ISA bus 22 to the CPU 20 that serves as a traffic director for the entire system 10. The data is stored in the RAM 23 prior to being transmitted to SCSI host adapter 18 and onto the the tapes 28 and discs 32 where the data is stored permanently.

Because DAT recording is relatively fast compared to channel data rates i.e., the DATs are capable of receiving data faster than data is digitized by the system, the data is first written into and stored on the RAM 23 and will be transmitted to the DATs 28 at a rate that is compatible with the capability of the DATs. At the same time, data is written into the disc files 32.

The two tapes 26a, 26b, can be used either independently to achieve greater capacity, or simultaneously to achieve redundancy. When used independently, more data can be written to the tapes. When they are used simultaneously, one tape 28a will serve as a backup for the other tape 28b. In this way, if either of the tapes is destroyed for any reason, there is always a backup.

The disc files 32a and 32b duplicate what is recorded on each of the DATs 28. Clearly, if the DATs 28a, 28b are being used in a redundant manner, only one disc 32 is required to record the audio. In fact, one disc 32 can be partitioned with a portion duplicating the data on one DAT 28a and the other portion duplicating the data on a second DAT 28b when the DATs are run sequentially. The primary function served by the disc file 32 is to allow one to listen to previously written recorded data without interfering with the functions of the DATs 28. In addition, the discs 32a, 32b can serve the function of back-ups for the DATs 28a, 28b.

When one wishes to listen to audio that had been recorded at a particular time, this can be accomplished by inputting a request to the CPU 20 requesting that a message on a particular channel and at the given time be delivered over the speaker 41.

The time data is stored on the DATs 28 and discs 32 under control of the CPU 20. An input is made into the system 10, as by a network or serial port connection for the time and

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Thus, what has been shown and described is a digital recording logger that is modular in construction, is capable of using digital audio tapes in an effective manner and can be networked to provide a plurality of workstations and nodes.

The above embodiments have been given by way of illustration only, and other embodiments of the invention will be apparent to those skilled in the art from consideration of the detailed description. Accordingly, limitations on the instant invention are to be found only in the claims.

What is claimed is:

1. A modular digital recording logger, comprising:  
a housing;

at least two circuit modules in said housing for converting analog voice signals to digital voice signals, each of said circuit modules including at least two terminals for receiving said analog voice signals, each of said terminals being capable of receiving said analog voice signals for recording a two-way conversation;

a circuit in said housing for compressing said digital voice signals received from each of said circuit modules to provide compressed voice data;

a first bus in said housing for providing communication between said circuit module and said compressing circuit;

a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus; and  
a digital audio tape (DAT) drive for storing said compressed voice data.

2. The modular digital recording logger of claim 1, further including a clock in communication with said computer.

3. The modular digital recording logger of claim 1, further including a speaker in communication with at least one circuit module.

4. The modular digital recording logger of claim 1, further comprising a hard disk drive in said housing for storing and reproducing said compressed voice data.

5. The modular digital recording logger of claim 4, further comprising: a computer in said housing for operating said DAT drive and/or said hard disk drive to store and reproduce said digital voice signals; and

a second bus in said housing for connecting said computer to said hard disk drive and said DAT drive.

6. The modular digital recording logger of claim 1, wherein said first bus is a time division multiplexing (TDM) bus and said multiplexer circuit is a time division multiplexer circuit.

7. The modular digital recording logger of claim 1, wherein said second bus is a small computer system interface (SCSI) bus and further comprising a SCSI adapter for connecting said computer to said SCSI bus.

8. The modular digital recording logger of claim 1, wherein said compressing circuit is a processor.

9. The modular digital recording logger of claim 8, further comprising an ISA bus for providing communication between said computer and said processor.

10. The modular digital recording logger of claim 7, further including a random access memory (RAM) for storing said compressed voice data before it is transmitted to the SCSI adapter.

11. A network system of modular digital recording loggers, comprising:

at least two digital recording loggers for logging voice conversations, each of said recording loggers comprising:

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a housing:

a circuit in said housing for converting analog voice signals to and from digital voice signals, said circuit modules including at least two terminals for receiving said analog voice signals, and wherein each of said terminals is capable of receiving said analog voice signals for recording a two-way conversation.

a circuit in said housing for compressing said digital voice signals received from each of said circuit modules to provide compressed voice data.

a first bus in said housing for providing communication between said circuit module and said compressing circuit,

a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus.

a digital audio tape (DAT) drive for storing said compressed voice data.

a hard disk drive in said housing for storing and reproducing said compressed voice data.

a first computer in said housing for operating said DAT drive and/or said hard disk drive to store and reproduce said digital voice signals, and

a second bus in said housing for connecting said computer to said hard disk drive and said DAT drive;

a second computer for processing compressed digital voice signals received from each of said recording loggers; and

a third bus connecting each of said recording loggers to said second computer.

12. The network system of claim 11, further comprising a  
35 clock in communication with said first computer.

13. The network system of claim 11, wherein said third bus is a local area network (LAN) bus.

14. The network system of claim 13, wherein said second computer and each of said recording loggers further include

40 a LAN adapter for providing connection to said LAN bus.

15. The network system of claim 11, wherein said first bus is a time division multiplexed (TDM) bus and said multiplexer circuit is a time division multiplexer circuit.

16. The network system of claim 11, wherein said second  
45 bus is a small computer system interface (SCSI) bus and

further comprising a SCSI adapter for connecting said first computer to said SCSI bus.

17. The network system of claim 16, further comprising a random access memory (RAM) for storing said compressed voice data before it is transmitted to the SCSI adapter.

18. The network system of claim 11, wherein said compressing circuit is a processor.

19. The network system of claim 18, further comprising  
55 an ISA bus for providing communication between said first  
computer and said processor.

20. The network system of claim 11, wherein said second computer is a workstation.

21. The network system of claim 11, further comprising a  
60 speaker in communication with said second computer for  
reproducing said analog voice signals.

22. A method of manufacturing a modular digital recording logger, comprising the steps of:

65 selecting a number of circuit modules for converting analog voice signals to and from digital voice signals, each of said circuit modules including at least two terminals for receiving said analog voice signals, and

installing a circuit in said housing for compressing said digital voice signals received from each of said circuit modules to provide compressed voice data;

installing a multiplexer circuit in said housing for providing communication between said compressing circuit and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus; and

23. The method of claim 22, further comprising the steps of connecting to said comprising circuit a hard disk drive for storing and reproducing said compressed voice data.

selecting a number of modular digital recording loggers for logging voice conversations, each of said recording loggers comprising:

a circuit in said housing for converting analog voice signals to and from digital voice signals, said circuit including a plurality of terminals for receiving said analog voice signals, and wherein each of said ter-



- minals is capable of receiving said analog voice signals for recording a two-way conversation.
- a circuit in said housing for compressing said digital voice signals received from each of said circuit modules to provide compressed voice data.
- 5 a first bus in said housing for providing communication between said circuit module and said compressing circuit.
- a multiplexer circuit in said housing for providing communication between said processor and said first bus, wherein said multiplexer circuit multiplexes voice signals exchanged between said compressing circuit and said circuit modules on said first bus.
- 10 a digital audio tape (DAT) drive for storing and reproducing said compressed voice data.
- 15 a hard disk drive for storing and reproducing said compressed voice data.
- a first computer in said housing for operating said DAT drive and/or said hard disk drive to store and reproduce said digital voice signals, and
- 20 a second bus in said housing for connecting said computer to said hard disk drive and said DAT drive; installing said selected number of said recording loggers; installing a second computer for processing compressed digital voice signals received from each of said recording loggers; and
- 25 installing a third bus connecting each of said recording loggers to said second computer.
25. The method of claim 24, wherein said third bus is a local area network (LAN) bus.
- 30 26. The method of claim 25, wherein said second computer and each of said recording loggers further include a LAN adapter for providing connection to said LAN bus.

\* \* \* \* \*

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF THE PATENT  
APPLICATION FOR REISSUE OF

Application of: DALY et al.

U.S. Patent No.: 5,819,005

Issued: October 6, 1998

For: MODULAR DIGITAL  
RECORDING LOGGER

Attorney Docket No.: 8740-049

Assignee: Dictaphone Corporation

**ASSENT OF ASSIGNEE TO REISSUE**

Assistant Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Dictaphone Corporation, being assignee of the entire right, title and interest to United States Letters Patent No. 5,819,005 by deed of assignment hereby assents to the accompanying application for reissue of said Letters Patent.

The undersigned, Daniel P. Hart, certifies as follows:

1. Dictaphone Corporation is the assignee of the entire right, title, interest in the invention and patent application Serial No. 100,944, filed August 3, 1993, by virtue of an assignment from the inventors, Daniel F. Daly, John Henits, Salvatore J. Morlando, Robert B. Swick, Keith K. W. Leung, and Constantine P. Messologitis to Dictaphone Corporation, which was recorded on August 3, 1993, at Reel 6657/Frame 0485.

2. In 1995, Dictaphone Corporation entered into an agreement with Banker's Trust Company, as agent for several lenders, granting a security interest in certain intellectual property of Dictaphone Corporation, including the above-recited application Serial No. 100,944. The security agreement was recorded in the Patent Office on August 28, 1995, at Reel 7648/Frame 0744.

3. On March 29, 1996, application Serial No. 100,944 was abandoned in favor of a file wrapper continuation application Ser. No. 623,671 filed on the same day, which matured in U.S. Pat. No. 5,819,005 on October 6, 1998. Application Serial No.

623,671 is assigned to Dictaphone Corporation by virtue of the assignment recorded in the parent application Serial No. 100,944.

4. On June 21, 2000, Banker's Trust Company executed a Termination of Collateral Assignment and Security Interest ("Release") releasing the security interest in the intellectual property collateral granted by the 1995 agreement, including the security interest in application Serial No. 100,944. The Release was filed in the Patent Office on June 29, 2000, but has not yet been recorded and no Reel/Frame numbers have yet been assigned. A copy of the Release bearing a stamp evidencing receipt by the Patent Office on June 29, 2000 is enclosed.

5. I have reviewed the assignment documents of record identified in paragraphs 1, 2, and 4 above. To the best of my knowledge and belief, Dictaphone Corporation holds title to application serial number 623,671.

6. I hold the position of Senior Vice President, General Counsel and Secretary at Dictaphone Corporation and I am empowered to act on its behalf in this matter.

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 7<sup>th</sup> day of August, 2000.

Dictaphone Corporation

By: 

Name: Daniel P. Hart, Esq.

Position: Senior Vice President,  
General Counsel and Secretary



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF THE PATENT  
APPLICATION FOR REISSUE OF

Application of: DALY et al.

U.S. Patent No.: 5,819,005

Issued: October 6, 1998

For: MODULAR DIGITAL  
RECORDING LOGGER

Attorney Docket No.: 8740-049

Assignee: Dictaphone Corporation

**REISSUE DECLARATION UNDER 37 C.F.R. 1.175  
AND POWER OF ATTORNEY**

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

We, Daniel F. Daly, residing at 194 Barn Hill Road, Monroe, Connecticut, John Henits, residing at 12 Country Way, Bethel, Connecticut, Salvatore J. Morlando, residing at 15 Jamestown Road, Easton, Connecticut, Robert B. Swick residing at 168 Margherita Lawn, Stratford, Connecticut, Keith K. W. Leung, residing at 106 Longview Road, Monroe, Connecticut, and Constantine P. Messologitis, residing at 106 West Rutland Road, Milford, Connecticut, citizens of the United States; declare that we have read the foregoing specification and we verily believe ourselves to be the original, first, and joint inventors of the invention entitled MODULAR DIGITAL RECORDING LOGGER, described and claimed in the attached specification for reissue of United States Letters Patent No. 5,819,005 (the "'005 patent"), which issued October 6, 1998 from application Serial No. 08/623,671 filed March 29, 1996, and we further declare that:

We have reviewed and understand the contents of the above-identified application, as presented both in the original patent and in this reissue application, including the specification and claims as amended by the amendment filed herewith;

We do not know and do not believe that our invention was ever known or used in the United States before the date of our invention thereof;

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The invention described and claimed in our patent specification has not been patented or made the subject of an inventor's certificate in any country foreign to the United States on an application filed by us or our legal representatives or assigns more than twelve months prior to March 29, 1996, the filing date of our application Serial No. 08/623,671.

We acknowledge the duty to disclose information which is material to the patentability of the claims of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

We verily believe the '005 patent to be, through error and without any deceptive intention, partly inoperative by reason of our claiming less than we had a right to claim in the '005 patent. Specifically, one reason why the '005 patent is believed to be partly inoperative is that the patent claims include additional features directed to specific embodiments. In particular, the recitation in independent claims 1, 11, 22 and 24 that the modular digital recording logger is for "recording two-way conversation" is an error, which may limit those claims to a specific embodiment for recording conversations. The recorded voice signals of the invention disclosed in the specification need not correspond to any "conversation." Another error is the recitation in independent claims 11, 22 and 24 that each logger in a network of loggers have a hard disk drive "to store and reproduce" compressed voice data, which may limit those claims to a specific preferred embodiment where each logger both stores and reproduces stored data. In a network of loggers as disclosed in the specification, each individual logger need not be capable of both storing data and reproducing stored data.

We did not discover these and other errors until reviewing the '005 patent after issuance. Upon determining the inadvertent mistakes in failing to claim the full scope of the invention, we took prompt steps to instruct our attorneys to prepare and file this reissue application. We believe that the original claims of the application, as amended, together with the new claims added by this reissue application, now correct the errors and adequately cover the present invention.

All errors which are being corrected in the present reissue application up to the time of filing of this declaration arose without any deceptive intention on the part of the applicants.

The amended and new claims submitted herewith remedy the errors in the issued claims.

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We hereby appoint S. Leslie Misrock (Reg. No. 18872), Harry C. Jones, III (Reg. No. 20280), Berj A. Terzian (Reg. No. 20060), David Weild, III (Reg. No. 21094), Jonathan A. Marshall (Reg. No. 24614), Barry D. Rein (Reg. No. 22411), Stanton T. Lawrence, III (Reg. No. 25736), Charles E. McKenney (Reg. No. 22795), Philip T. Shannon (Reg. No. 24278), Francis E. Morris (Reg. No. 24615), Charles E. Miller (Reg. No. 24576), Gidon D. Stern (Reg. No. 27469), John J. Lauter, Jr. (Reg. No. 27814), Brian M. Poissant (Reg. No. 28462), Brian D. Coggio (Reg. No. 27624), Rory J. Radding (Reg. No. 28749), Stephen J. Harbulak (Reg. No. 29166), Donald J. Goodell (Reg. No. 19766), James N. Palik (Reg. No. 25510), Thomas E. Friebe (Reg. No. 29258), Laura A. Coruzzi (Reg. No. 30742), Jennifer Gordon (Reg. No. 30753), Allan A. Fanucci (Reg. No. 30256), Geraldine F. Baldwin (Reg. No. 31232), Victor N. Balancia (Reg. No. 31231), Samuel B. Abrams (Reg. No. 30605), Steven I. Wallach (Reg. No. 35402), Marcia H. Sunde (Reg. No. 30893), Paul J. Zegger (Reg. No. 33821), Edmond R. Bannon (Reg. No. 32110), Bruce J. Barker (Reg. No. 33291), Adriane M. Antler (Reg. No. 32605), Thomas G. Rowan (Reg. No. 34419), James G. Markey (Reg. No. 31636), Thomas D. Kohler (Reg. No. 32797), Scott D. Stimpson (Reg. No. 33607), Gary S. Williams (Reg. No. 31066), William S. Galliani (Reg. No. 33885), Ann L. Gisolfi (Reg. No. 31956), Todd A. Wagner (Reg. No. 35399), Scott B. Familant (Reg. No. 35514), Kelly D. Talcott (Reg. No. 39582), Francis D. Cerrito (Reg. No. 38100), Anthony M. Insogna (Reg. No. 35203), Brian M. Rothery (Reg. No. 35340), Brian D. Siff (Reg. No. 35679), and Alan Tenenbaum (Reg. No. 34939), all of Pennie & Edmonds LLP, whose addresses are 1155 Avenue of the Americas, New York, New York 10036, 1667 K Street N.W., Washington, DC 20006 and 3300 Hillview Avenue, Palo Alto, CA 94304, and each of them, our attorneys, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith.

We respectfully request that all correspondence in connection with this application be addressed to:

**PENNIE & EDMONDS LLP**  
1155 Avenue of the Americas  
New York, New York 10036

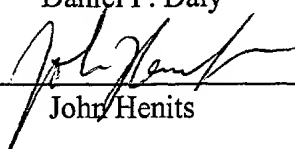
We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

Wherefore we pray that Letters Patent be reissued and granted for the invention or discovery described and claimed in the foregoing specification and claims; and We hereby subscribe our names to the foregoing specification and claims as of the dates indicated below.

Date: 30 June 2000

Inventor   
Daniel F. Daly

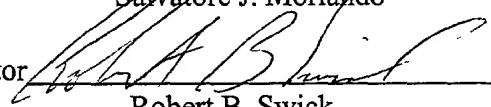
Date: 14. June 2000

Inventor   
John Henits


Date: \_\_\_\_\_

Inventor \_\_\_\_\_  
Salvatore J. Morlando

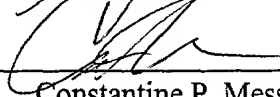
Date: June 14, 2000

Inventor   
Robert B. Swick

Date: June 15, 2000

Inventor   
Keith K. W. Leung

Date: June 15, 2000

Inventor   
Constantine P. Messologitis

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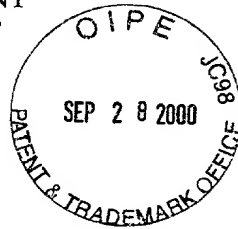
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF THE PATENT  
APPLICATION FOR REISSUE OF

Application of: DALY et al.

U.S. Patent No.: 5,819,005

Issued: October 6, 1998



For: MODULAR DIGITAL  
RECORDING LOGGER

Attorney Docket No.: 8740-049

Assignee: Dictaphone Corporation

**REISSUE DECLARATION UNDER 37 C.F.R. 1.175  
AND POWER OF ATTORNEY**

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

We, Daniel F. Daly, residing at 194 Barn Hill Road, Monroe, Connecticut, John Henits, residing at 12 Country Way, Bethel, Connecticut, Salvatore J. Morlando, residing at 15 Jamestown Road, Easton, Connecticut, Robert B. Swick residing at 168 Margherita Lawn, Stratford, Connecticut, Keith K. W. Leung, residing at 106 Longview Road, Monroe, Connecticut, and Constantine P. Messologitis, residing at 106 West Rutland Road, Milford, Connecticut, citizens of the United States; declare that we have read the foregoing specification and we verily believe ourselves to be the original, first, and joint inventors of the invention entitled MODULAR DIGITAL RECORDING LOGGER, described and claimed in the attached specification for reissue of United States Letters Patent No. 5,819,005 (the "'005 patent"), which issued October 6, 1998 from application Serial No. 08/623,671 filed March 29, 1996, and we further declare that:

We have reviewed and understand the contents of the above-identified application, as presented both in the original patent and in this reissue application, including the specification and claims as amended by the amendment filed herewith;

We do not know and do not believe that our invention was ever known or used in the United States before the date of our invention thereof;



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002250:24727950

The invention described and claimed in our patent specification has not been patented or made the subject of an inventor's certificate in any country foreign to the United States on an application filed by us or our legal representatives or assigns more than twelve months prior to March 29, 1996, the filing date of our application Serial No. 08/623,671.

We acknowledge the duty to disclose information which is material to the patentability of the claims of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

We verily believe the '005 patent to be, through error and without any deceptive intention, partly inoperative by reason of our claiming less than we had a right to claim in the '005 patent. Specifically, one reason why the '005 patent is believed to be partly inoperative is that the patent claims include additional features directed to specific embodiments. In particular, the recitation in independent claims 1, 11, 22 and 24 that the modular digital recording logger is for "recording two-way conversation" is an error, which may limit those claims to a specific embodiment for recording conversations. The recorded voice signals of the invention disclosed in the specification need not correspond to any "conversation." Another error is the recitation in independent claims 11, 22 and 24 that each logger in a network of loggers have a hard disk drive "to store and reproduce" compressed voice data, which may limit those claims to a specific preferred embodiment where each logger both stores and reproduces stored data. In a network of loggers as disclosed in the specification, each individual logger need not be capable of both storing data and reproducing stored data.

We did not discover these and other errors until reviewing the '005 patent after issuance. Upon determining the inadvertent mistakes in failing to claim the full scope of the invention, we took prompt steps to instruct our attorneys to prepare and file this reissue application. We believe that the original claims of the application, as amended, together with the new claims added by this reissue application, now correct the errors and adequately cover the present invention.

All errors which are being corrected in the present reissue application up to the time of filing of this declaration arose without any deceptive intention on the part of the applicants.

The amended and new claims submitted herewith remedy the errors in the issued claims.

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We hereby appoint S. Leslie Misrock (Reg. No. 18872), Harry C. Jones, III (Reg. No. 20280), Berj A. Terzian (Reg. No. 20060), David Weild, III (Reg. No. 21094), Jonathan A. Marshall (Reg. No. 24614), Barry D. Rein (Reg. No. 22411), Stanton T. Lawrence, III (Reg. No. 25736), Charles E. McKenney (Reg. No. 22795), Philip T. Shannon (Reg. No. 24278), Francis E. Morris (Reg. No. 24615), Charles E. Miller (Reg. No. 24576), Gidon D. Stern (Reg. No. 27469), John J. Lauter, Jr. (Reg. No. 27814), Brian M. Poissant (Reg. No. 28462), Brian D. Coggio (Reg. No. 27624), Rory J. Radding (Reg. No. 28749), Stephen J. Harbulak (Reg. No. 29166), Donald J. Goodell (Reg. No. 19766), James N. Palik (Reg. No. 25510), Thomas E. Friebe (Reg. No. 29258), Laura A. Coruzzi (Reg. No. 30742), Jennifer Gordon (Reg. No. 30753), Allan A. Fanucci (Reg. No. 30256), Geraldine F. Baldwin (Reg. No. 31232), Victor N. Balancia (Reg. No. 31231), Samuel B. Abrams (Reg. No. 30605), Steven I. Wallach (Reg. No. 35402), Marcia H. Sundeen (Reg. No. 30893), Paul J. Zegger (Reg. No. 33821), Edmond R. Bannon (Reg. No. 32110), Bruce J. Barker (Reg. No. 33291), Adriane M. Antler (Reg. No. 32605), Thomas G. Rowan (Reg. No. 34419), James G. Markey (Reg. No. 31636), Thomas D. Kohler (Reg. No. 32797), Scott D. Stimpson (Reg. No. 33607), Gary S. Williams (Reg. No. 31066), William S. Galliani (Reg. No. 33885), Ann L. Gisolfi (Reg. No. 31956), Todd A. Wagner (Reg. No. 35399), Scott B. Familant (Reg. No. 35514), Kelly D. Talcott (Reg. No. 39582), Francis D. Cerrito (Reg. No. 38100), Anthony M. Insogna (Reg. No. 35203), Brian M. Rothery (Reg. No. 35340), Brian D. Siff (Reg. No. 35679), and Alan Tenenbaum (Reg. No. 34939), all of Pennie & Edmonds LLP, whose addresses are 1155 Avenue of the Americas, New York, New York 10036, 1667 K Street N.W., Washington, DC 20006 and 3300 Hillview Avenue, Palo Alto, CA 94304, and each of them, our attorneys, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith.


We respectfully request that all correspondence in connection with this application be addressed to:

**PENNIE & EDMONDS** LLP  
1155 Avenue of the Americas  
New York, New York 10036


We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

Variable	Mean	SD	Min	Max
Age	34.5	10.2	22	55
Gender	0.5	0.5	0	1
Marital status	0.6	0.5	0	1
Education	12.5	1.5	9	16
Income	1500	500	500	3000
Health status	0.8	0.2	0	1
Smoking status	0.3	0.5	0	1
Alcohol consumption	0.2	0.4	0	1
Exercise frequency	0.5	0.5	0	1
Stress level	0.7	0.3	0	1
Sleep quality	0.6	0.2	0	1
Work satisfaction	0.5	0.5	0	1
Life satisfaction	0.6	0.2	0	1
Depression score	10.5	5.0	0	30
Anxiety score	12.0	6.0	0	30
Quality of life score	75.0	10.0	50	100


Inventor\_\_\_\_\_

Daniel F. Daly  
Inventor   
John Henits

Inventor

Salvatore J. Morlando  
Inventor   
Robert B. Swick

Inventor Keith K. W. Leung

Inventor   
Constantine P. Messologitis